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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/830,188

04/21/2004

Ryan Lane

020378D1

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10/20/2004

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

PERKINS, PAMELA E

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/830,188

Applicant(s)

LANE ET AL.

Examiner

Pamela E Perkins

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This office action is in response to the filing of the application papers on 21 April 2004. Claims 1-14 are pending; claim 15 has been cancelled.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-14, drawn to a method of manufacturing a semiconductor device, classified in class 438, subclass 617.
- II. Claim 15, drawn to a method of designing a semiconductor device, classified in class 716, subclass 9.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as the design method as claimed may be used in a process method without a bond island as required by the process as claimed. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Howard Seo on 4 October 2004 a provisional election was made without traverse to prosecute the invention of group I, claims 1-14 drawn to a method of manufacturing a semiconductor device. Affirmation of this election must be made by applicant in replying to this Office action. Claim 15 is

withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Torres et al. (5,898,213).

Torres et al. disclose a method of making semiconductor package where a substrate (95) has a die (96) mounted at a die attach area; the die (96) has a plurality of bond pads (97); bond pad islands (98) are located on the substrate (95); bond wire (99) connects the bond pad (97) to the bond island (98); the bond pad island (98) is connected to a conductive terminal pad (102) by trace (101) (Fig. 7; col. 5, lines 1- 27). Torres et al. further disclose encapsulating the die (col. 6, lines 56-67). Torres et al. also disclose the package lead comprises a solder ball included in a ball grid array (BGA) (col. 1, lines 1-2) or a land included in a land grid array (LGA) (col. 5, lines 40-48).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torres et al. in view of Chou et al. (5,691,568).

Torres et al. disclose the subject matter claimed above except a bond finger for coupling a bond wire between a bond finger and a bond pad.

Chou et al. disclose a method of making a semiconductor package where a package comprises a bond finger (511) for coupling a bond wire (526b) between a bond finger and a bond pad on the semiconductor chip (Fig. 5b; col. 10, lines 4-58; col. 12, lines 4-30).

Since Torres et al. and Chou et al. are both from the same field of endeavor, a method of making a semiconductor package, the purpose disclosed by Chou et al. would have been recognized in the pertinent art of Torres et al. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify Torres et al. by forming a bond finger for coupling a bond wire between a bond finger and a bond pad as taught by Chou et al. to minimize false switching (col. 5, lines 22-45).

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barber (5,545,923), Ball (6,407,456), Heo (6,555,917) and Bayan et al. (6,66,4615) all disclose methods of making semiconductor packages.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E Perkins whose telephone number is (571) 272-1840. The examiner can normally be reached on Monday thru Friday, 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PEP


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